103
EFFECTS STUDIO
(LONDON)
111
112
113
CONSUMERS
104
TEXTURE STUDIO
(TOKYO)
115
DISTRIBUTOR
W W W
101
102
ANIMATION STUDIO
(CALIFORNIA)
117
PROSUMER
121
122
123
CONSUMERS
105
CUSTOMER CENTRE
(NEW YORK)

Figure 1

Figure 2

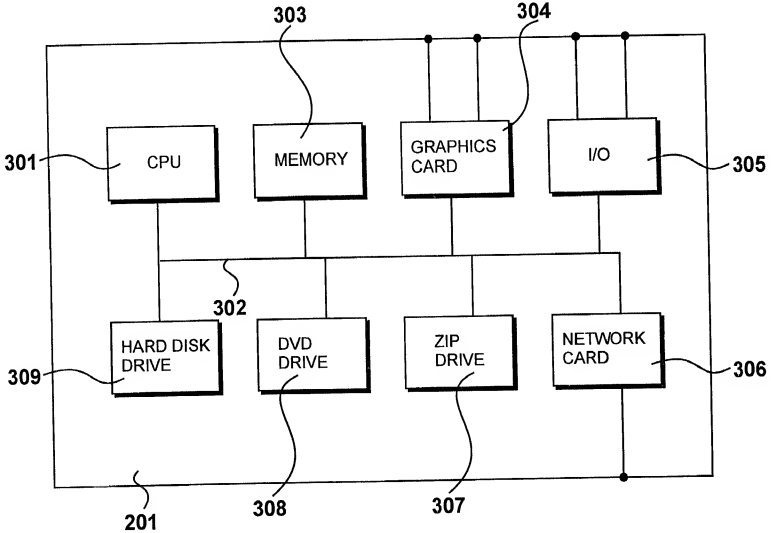
303
304
301
CPU
MEMORY
GRAPHICS CARD
I/O
305
302
HARD DISK DRIVE
DVD DRIVE
ZIP DRIVE
NETWORK CARD
309
306
201
308
307

Figure 3

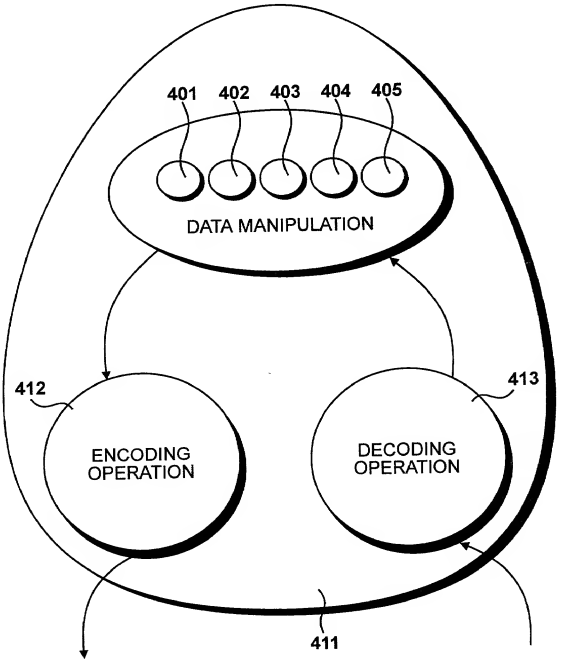
401
402
403
404
405
DATA MANIPULATION
412
ENCODING OPERATION
413
DECODING OPERATION
411

Figure 4

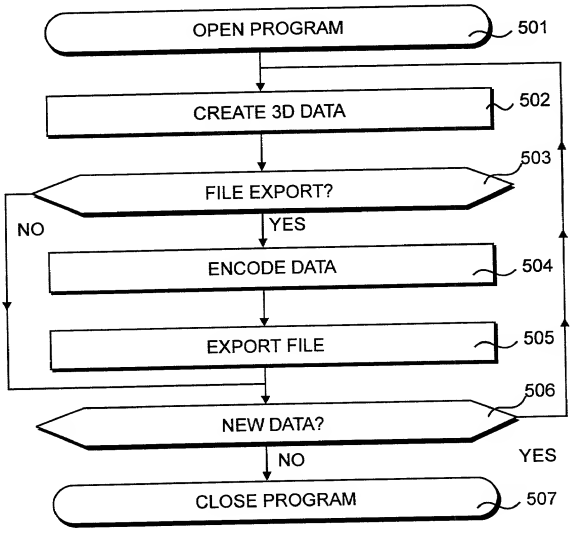
OPEN PROGRAM
501
CREATE 3D DATA
502
FILE EXPORT?
503
NO
YES
ENCODE DATA
504
EXPORT FILE
505
NEW DATA?
506
NO
YES
CLOSE PROGRAM
507

Figure 5

Figure 6

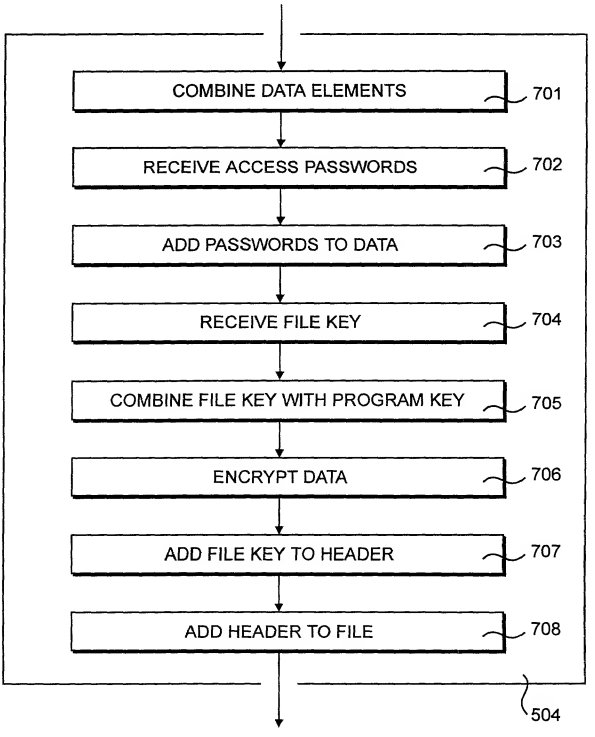
COMBINE DATA ELEMENTS
701
RECEIVE ACCESS PASSWORDS
702
ADD PASSWORDS TO DATA
703
RECEIVE FILE KEY
704
COMBINE FILE KEY WITH PROGRAM KEY
705
ENCRYPT DATA
706
ADD FILE KEY TO HEADER
707
ADD HEADER TO FILE
708
504

Figure 7

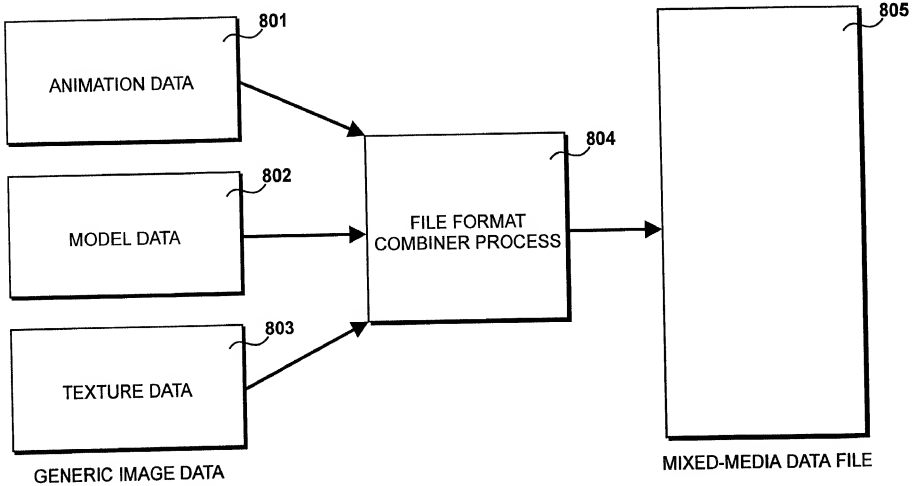
801
ANIMATION DATA
802
MODEL DATA
803
TEXTURE DATA
GENERIC IMAGE DATA
804
FILE FORMAT
COMBINER PROCESS
805
MIXED-MEDIA DATA FILE

Figure 8

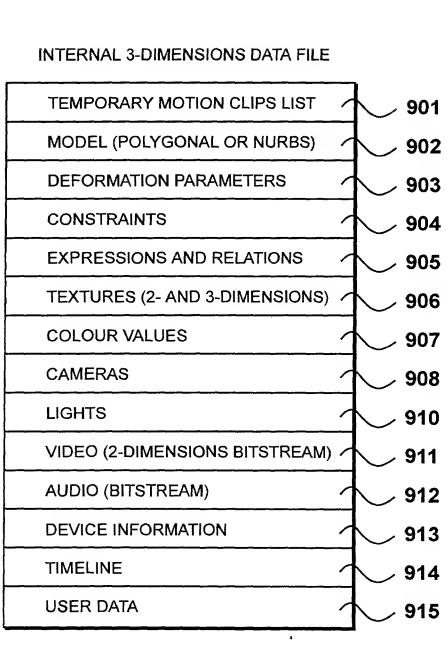
INTERNAL 3-DIMENSIONS DATA FILE
TEMPORARY MOTION CLIPS LIST
901
MODEL (POLYGONAL OR NURBS)
902
DEFORMATION PARAMETERS
903
CONSTRAINTS
904
EXPRESSIONS AND RELATIONS
905
TEXTURES (2- AND 3-DIMENSIONS)
906
COLOUR VALUES
907
CAMERAS
908
LIGHTS
910
VIDEO (2-DIMENSIONS BITSTREAM)
911
AUDIO (BITSTREAM)
912
DEVICE INFORMATION
913
TIMELINE
914
USER DATA
915

Figure 9

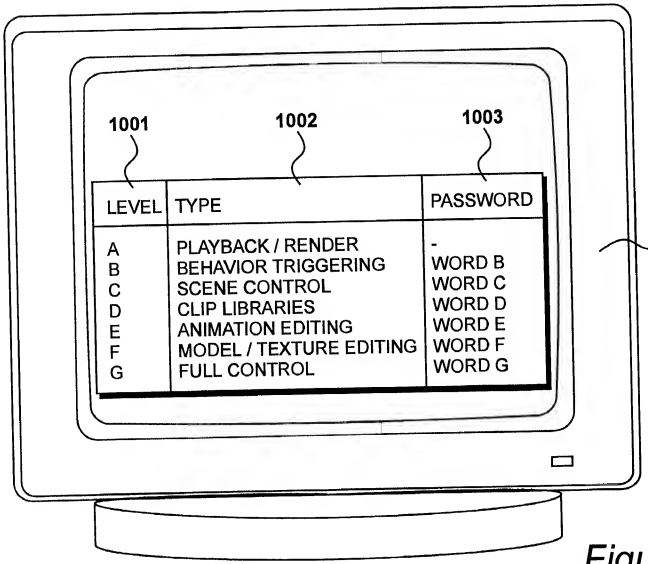
1001
1002
1003
LEVEL
TYPE
PASSWORD
A
B
C
D
E
F
G
PLAYBACK / RENDER
BEHAVIOR TRIGGERING
SCENE CONTROL
CLIP LIBRARIES
ANIMATION EDITING
MODEL / TEXTURE EDITING
FULL CONTROL
-
WORD B
WORD C
WORD D
WORD E
WORD F
WORD G
207

Figure 10

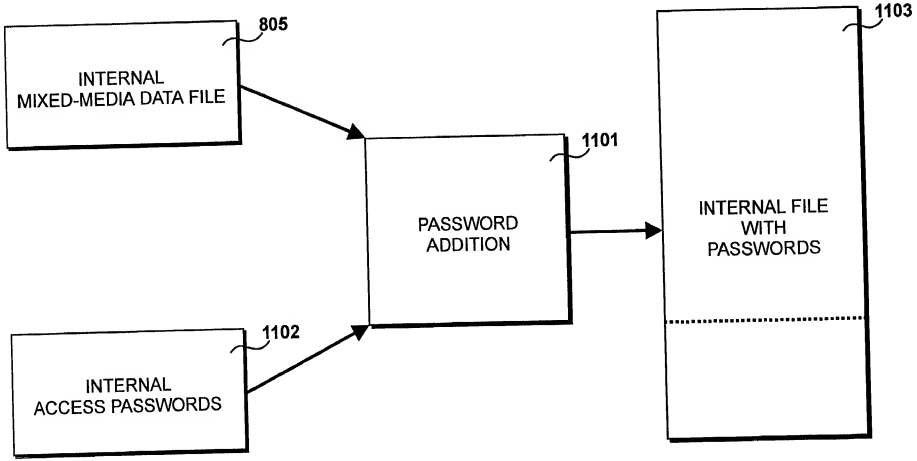
805
INTERNAL
MIXED-MEDIA DATA FILE
1102
INTERNAL
ACCESS PASSWORDS
1101
PASSWORD
ADDITION
1103
INTERNAL FILE
WITH
PASSWORDS

Figure 11

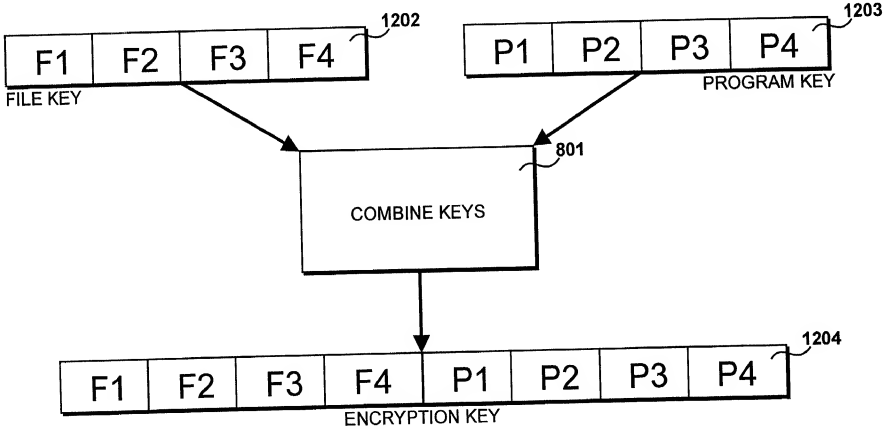
F1
F2
F3
F4
1202
FILE KEY
P1
P2
P3
P4
1203
PROGRAM KEY
801
COMBINE KEYS
F1
F2
F3
F4
P1
P2
P3
P4
1204
ENCRYPTION KEY

Figure 12

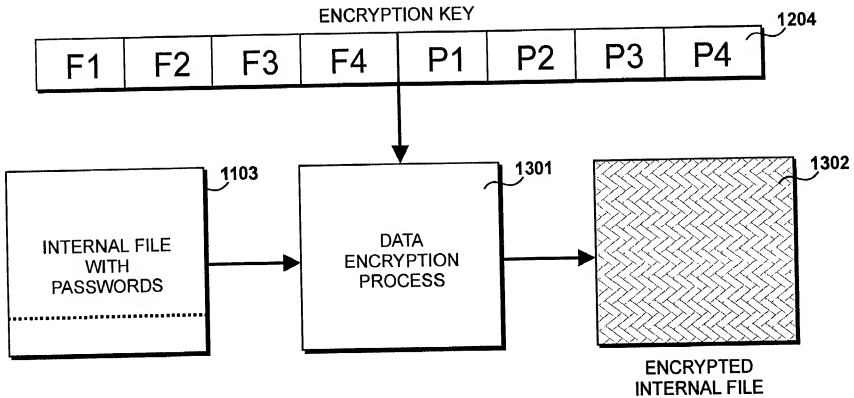
ENCRYPTION KEY
1204
F1
F2
F3
F4
P1
P2
P3
P4
1103
INTERNAL FILE WITH PASSWORDS
1301
DATA ENCRYPTION PROCESS
1302
ENCRYPTED INTERNAL FILE

Figure 13

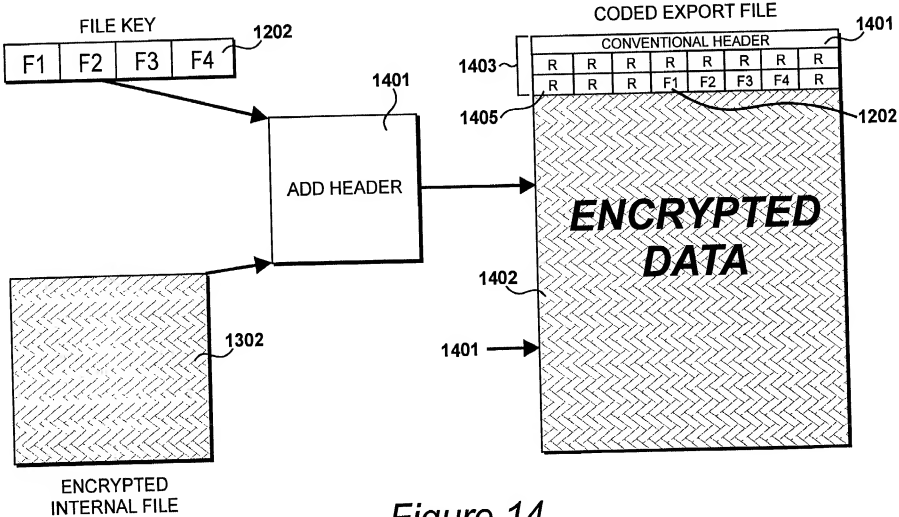
FILE KEY
F1
F2
F3
F4
1202
1401
ADD HEADER
1302
ENCRYPTED INTERNAL FILE
CODED EXPORT FILE
1401
CONVENTIONAL HEADER
1403
R R R R R R R R
R R R F1 F2 F3 F4 R
1405
1202
ENCRYPTED DATA
1402
1401

Figure 14

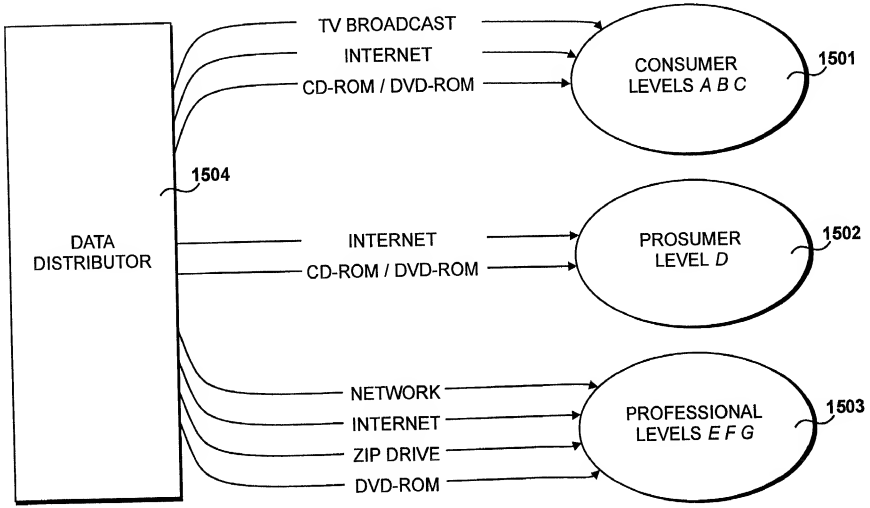
DATA DISTRIBUTOR
1504
TV BROADCAST
INTERNET
CD-ROM / DVD-ROM
CONSUMER LEVELS A B C
1501
INTERNET
CD-ROM / DVD-ROM
PROSUMER LEVEL D
1502
NETWORK
INTERNET
ZIP DRIVE
DVD-ROM
PROFESSIONAL LEVELS E F G
1503

Figure 15

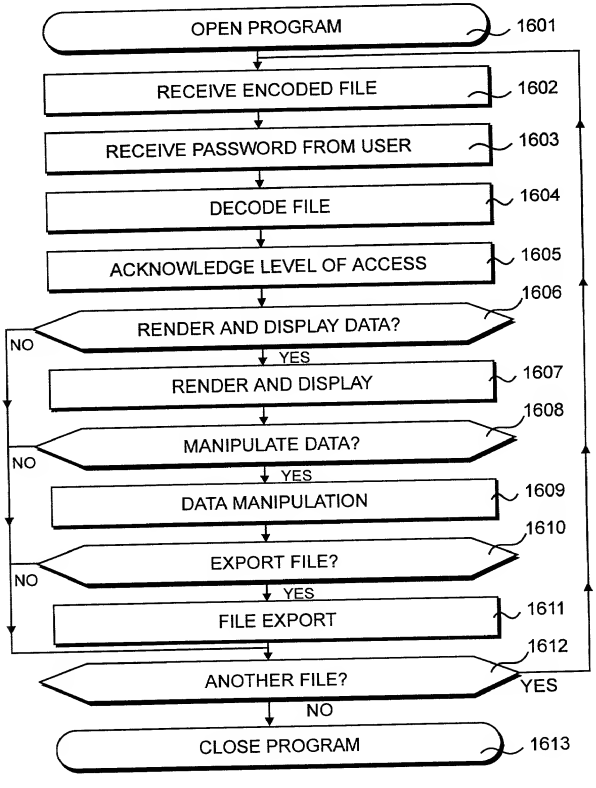
OPEN PROGRAM
1601
RECEIVE ENCODED FILE
1602
RECEIVE PASSWORD FROM USER
1603
DECODE FILE
1604
ACKNOWLEDGE LEVEL OF ACCESS
1605
RENDER AND DISPLAY DATA?
1606
NO
YES
RENDER AND DISPLAY
1607
MANIPULATE DATA?
1608
NO
YES
DATA MANIPULATION
1609
EXPORT FILE?
1610
NO
YES
FILE EXPORT
1611
ANOTHER FILE?
1612
YES
NO
CLOSE PROGRAM
1613

Figure 16

207
PLEASE ENTER ACCESS PASSWORD
1701
CONTINUE
1702
CANCEL
1703

Figure 17

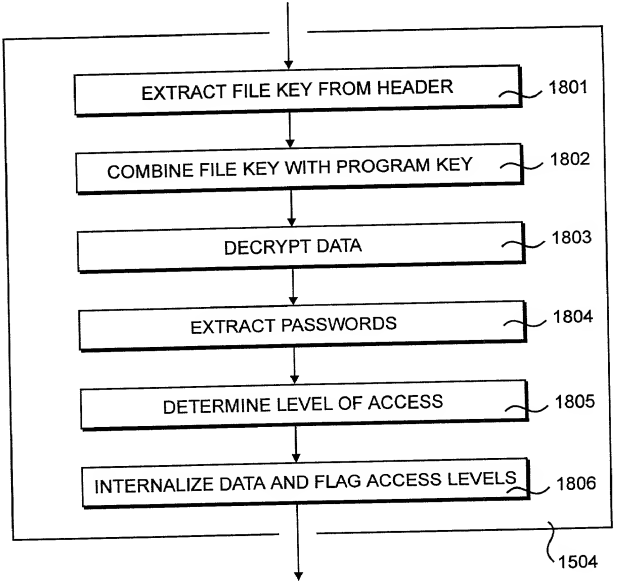
EXTRACT FILE KEY FROM HEADER
1801
COMBINE FILE KEY WITH PROGRAM KEY
1802
DECRYPT DATA
1803
EXTRACT PASSWORDS
1804
DETERMINE LEVEL OF ACCESS
1805
INTERNALIZE DATA AND FLAG ACCESS LEVELS
1806
1504

Figure 18

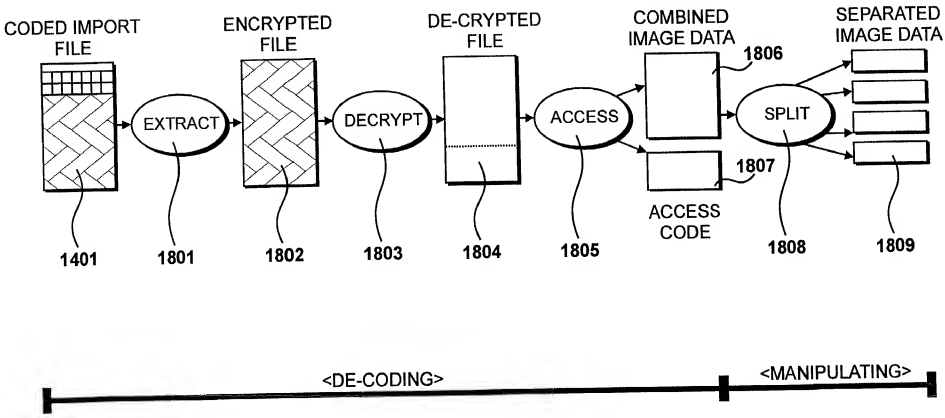
CODED IMPORT FILE
EXTRACT
ENCRYPTED FILE
DECRYPT
DE-CRYPTED FILE
ACCESS
COMBINED IMAGE DATA
1806
1807
ACCESS CODE
SPLIT
SEPARATED IMAGE DATA
1401
1801
1802
1803
1804
1805
1808
1809
<DE-CODING>
<MANIPULATING>

Figure 19

Figure 20